Abstract

Literature advocates the use of learning centers for early grades, but often this learning format is rarely used above middle school level and certainly not at the university level. Learning centers enable students to escape the role of passive learners by taking responsibility for their own learning. This instructional method provides a social setting in which students collaborate with their peers and increases the possibility of enhanced learning. This article describes the use of learning centers in two college classrooms as a means of demonstrating an instructional strategy that could be used by practitioners in the field and contrasts this format with an independent learning activity. The description is followed by an examination of pre-service teachers’ perceptions of the effectiveness of both strategies.
It’s Thursday afternoon in a classroom where students are actively engaged in learning, working on pre-designated tasks. There is a busy hum in the air as students agree/disagree and work together to solve problems and complete tasks. Where’s the teacher? Traditionally, one would expect to see the teacher in front of the class presenting information while students sit in rows facing the teacher and listen carefully. However, in this classroom, the teacher acts as a facilitator, moving around the room observing, monitoring, and occasionally being asked to provide information or feedback.

As you picture these students, what grade level are you imagining? Would you be surprised to discover that this scene is set in a college classroom? These college students work in centers to learn the content that usually would be taught by a professor in a lecture format.

Purpose of the Article

This article describes how learning centers were used in two different college classroom settings and contrasts this format with an independent learning method used within the same two classrooms. The description includes preparation for the learning center lessons, the presentation of the learning centers in the classroom, and reactions and comments from the authors and students. Experiences of both authors are included and are labeled “Professor One” and “Professor Two”. Findings are reported in regards to students’ perceptions of the effectiveness of both instructional strategies and numbers of responses to specific questions about the learning experiences. Although this study shares some common features with research methodology, it is not intended to be presented as a true experimental research design.

One purpose for the experiences described was to model the use of learning centers as an alternative instructional method to traditional learning formats. However, it is the authors’ intent to not only encourage teacher educators to model effective instructional strategies but to teach using these themselves. By doing so, teacher educators “practice what they preach.” The authors believe it is not enough just to explain a strategy; teacher educators must actually use the strategy to teach their students.

Review of Literature

Learning centers. Literature advocates the use of learning centers for early grades (Sloane, 1998/1999; Morrow, 2001; Tompkins, 2002; Roe, Smith, & Burns, 2005; Harp & Brewer, 2005), but this format is rarely used above middle school and certainly not in university classrooms. Students at the university level need to be as actively engaged as students at other levels. Being actively engaged means students are motivated to learn and are involved in learning activities. Learning centers can provide the format for active engagement as students interact with other group members, work on assigned activities, find ways to solve problems about group and individual learning, and take responsibility for their own learning.
**Small groups.** Since small groups of learners rotate through the learning centers, the information related to advantages of using small groups is discussed here. In order to meet the needs of different learning styles, it is important to use a variety of grouping configurations, such as whole class, partners, and small groups. One of the most effective grouping arrangements is the small group (Alvermann, Dillon, & O’Brien, 1987; Readence, Bean, & Baldwin, 2004). When small groups are used, learning and achievement are enhanced as students work collaboratively. Several affective advantages result from the use of small groups and are identified below:

- Motivation to learn is enhanced as students cooperate rather than compete with each other.
- Students’ attitudes toward instruction and the teacher become more positive.
- As students help each other learn, they get a more thorough understanding of content.
- As students become more confident about their learning, dependence upon the teacher for all learning decreases.

(Alvermann, Dillon, & O’Brien, 1987; Readence, Bean, & Baldwin, 2004).

Piaget (1969) and Vygotsky (1978) purport that learning occurs within a social context and through social interaction. As students interact with classmates in learning centers, they learn things they might not learn independently. (Tompkins, 2002).

**Adult learning.** Andragogy is “the art and science of helping adults learn…” and purports that “adults have different learning characteristics and requirements than children” (Clardy, 2005, p. 4). There are six basic assumptions of andragogy: “a self-concept and self-direction; a higher level of life background and experience; the need to understand the reasons for learning something; a learning motivation based upon personal need; a pragmatic orientation; and an internally driven motivation to learn.” Two andragogical assumptions seem to have direct import for this study. One of the assumptions is a self-concept of independence. As people age, most adults develop a self-concept of independence. They want to be perceived as capable of being responsible for themselves. As a result, the adult learner strives to have control and autonomy over the learning experience. This assumption could pose problems for instructors of pre-service teachers as they try to present their instruction using methodology that is successful with children. If adult pre-service teachers have already developed a learning style with which they are comfortable, it may be difficult for them to learn effectively using a style, such as the learning center approach, that differs from their own learning styles. A second assumption, learning motivation based upon personal need, also seems to be relevant to this study. Adults are ready to acquire new information as they perceive a need in a real-life context. Preservice teachers are motivated to learn course content because they realize they will need to know how to use instructional strategies in their future classrooms.

**Definition of Terms**

**Learning centers.** Learning centers can be defined in several ways. One definition is a physical area set aside for specific learning purposes where students are given a prescribed activity to do or an amount of information to learn (Tompkins, 2006).
Tompkins further describes learning centers as activities that are both purposeful and meaningful at which students work in small groups. For the purpose of this article, learning centers are defined as a set of carefully constructed activities designed to guide groups of students as they acquire specific skills. In the usual arrangement, several learning centers are utilized simultaneously, and small groups of students rotate through the centers in an organized progression (Bear, Invernizzi, Templeton, & Johnston, 2004). This is the model that was used by both authors.

**Independent learning method.** Author One used a study sheet with questions developed from the textbook chapter. Students were to read the chapter and answer the questions. Author Two used a reading guide that accompanied an assigned chapter from the textbook.

**Participants**

The participants were 51 upperclassmen in a teacher preparation program at a regional university in southeast Texas. Twenty-nine students in one classroom were preparing to become elementary teachers, while 22 students in the other classroom were preparing to become secondary teachers.

**Preparation for Using Learning Centers - Professor One**

Preparation to teach a lesson about selecting and using textbooks included a review of the chapter objectives in the course textbook and selected portions of the chapter that covered the desired objectives. The professor chose five topics and developed five learning centers based on those topics: censorship of textbooks, the textbook adoption cycle, how to do a readability estimate, how to conduct a checklist of qualitative factors to evaluate textbooks, and an activity defining and using essential vocabulary terms.

**Materials for each center.** Readability estimate center – computation directions from course and content area textbooks; Qualitative checklist center – checklist from course and content area textbooks; Censorship center - course textbook and newspaper articles about textbook censorship; Textbook adoption center – course textbook and information organized about the specific workings of the textbook adoption process in the state; Vocabulary center – five vocabulary words essential to understanding the concept of readability, definitions within the context of the course textbook and book glossary.

**Organization.** The class was divided into five small groups based upon the students’ content areas. This grouping enabled them to share commonalities in content knowledge and textbook organization, thus better assisting them in helping each other learn center content. Two groups had five members, and three groups had four members. For each section, the professor wrote both literal and experience-based questions and developed directions that led students through reading the text and responding to questions. Questions and directions were provided for every student at each center. An example of one of these is included.

**Textbook Censorship Articles**
Skim the section in your textbook “Censorship” on pages 53-54.
Discuss the information you read on these pages.
Distribute the articles about textbooks and peruse those. On your own paper, answer the following questions:
What are some issues in textbooks that groups or individuals protest about and want to censor?
Are adoptions of textbooks in Texas a high cost item? Why or why not?
Do publishers ever change the contents of their textbooks based upon pressures brought upon them by special interests groups? Give an example to support your answers.

Students recorded their responses individually and turned in their notes at the end of the center time. Each of the groups rotated through the centers at twenty-five minute intervals.

Before beginning the activities, the professor led the whole class in a chapter preview, reviewed the objectives for the chapter, and presented an introduction to the topic of textbook use and selection. Students began to work in their assigned centers after each center was described, and the rotation schedule was explained.

**Independent Learning Activity**

In contrast, the professor used an individual study sheet for the chapter about young adult literature. The introduction to the lesson included a power point that encompassed the major ideas students were to learn. The study sheet used for this activity had questions regarding information from the chapter that would not be covered in a whole class format. Students worked individually to respond to the questions after the introduction. Vocabulary terms, response to a reading attitude survey, how to determine students’ reading interests, sustained silent reading and possible responses to literature, such as journal writing, were topics covered by the questions. Information obtained from the comparison of these two instructional methods is included later in the article.

**Preparation for Learning Center – Professor Two**

Following is an example of learning centers that the second professor used in a Reading Methods Course. Before the center activity, the professor conducted a five minute lesson on book introductions for the whole group, explained what would be done at each center, divided the class into groups, and showed them the signal that would be used when it was time to change centers.

**Materials for each center.** Book introduction demonstration center – six books of different levels; Book introduction writing center – 16 books at different levels and paper; Listening center – tape recorder and audiotape of a Reading Recovery expert speaking about book introductions; Prompting center – page with scenarios, sheet of prompts, and paper.

**Organization.** At the book introduction demonstration center, the professor demonstrated four example book introductions with books on various levels. At the book introduction writing center, students paired up to write a book introduction which they presented to the rest of their group. At the listening center, class members listened to the book introduction audio tape. At the prompting center, students were given a page with scenarios of children’s reading with miscues and were instructed to write down prompts
that could be used to help the child correct the miscues. Students spent 15 minutes at each center before rotating.

**Follow-Up Activity**

As a follow-up activity, the second professor divided the class into five groups. Each group read a chapter of the phonics textbook and created a learning center to go with their chapter. They met together the next week to plan their learning centers, and the following week they set up their learning centers for the whole class to visit. There were five centers with approximately six students in each group. Groups visited four centers for fifteen minutes each. At one center, students read cards about teaching phonics using children’s literature and were instructed to do a practice phonics lesson for their group using one of four children’s books provided. At another center, the students played a variety of phonics word games. The next center contained a poster with definitions of phonics terms. The participants were given a laminated phonics quiz that they had to answer as a group using the information on the poster. Another center had dictionaries, and students looked up certain words and wrote them phonetically. At the last center, the students were given examples of invented spelling and practiced reading them. They were also given directions for Elconin boxes and practiced using them with a partner.

**Independent Learning Activity**

The second professor conducted a contrasting learning activity to compare center work with individual work. Each student was given a reading guide to go with an assigned chapter from the textbook with instructions to define and take notes on various assessment tools discussed in the chapter: readability formulas, informal reading inventories, word recognition tests, and phonics tests. They read the chapter before they came to class and worked individually to complete the reading guide.

**Feedback from Students about Learning Centers: Both Authors**

After the students had visited all the centers they were asked them to respond to the following questions:

- What was the best thing about using the learning center format?
- What was the worst thing about using the learning center format?
- Why did the teacher use this format?

The top five responses for each question are reported, and the tables reflect this information, listed in order from the statement receiving the highest number of responses to the one with the lowest. “Total number of responses,” given below each chart indicates the total number of responses to each question. Not all students responded to every question. Included under each chart are sample comments that are important in understanding the numerical responses.

**Question #1 – What was the best thing about using the learning center format?**

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learn from peers</td>
<td>10</td>
</tr>
<tr>
<td>Work together</td>
<td>9</td>
</tr>
<tr>
<td>A variety of activities</td>
<td>7</td>
</tr>
</tbody>
</table>

25
Everyone could participate 5
Teacher can instruct one small group at a time 5
* Total number of responses: 49

Student Comments
“The best thing about using the learning center format is being able to talk to the group to get help when needed.”
“I am very introverted, and working in centers helps me communicate and open up more than I would working alone.”
“It was fun. I like being able to learn from my peers.”
“The best thing about using learning centers was that you got to see examples and apply them.”

Question #2 – What was the worst thing about using the learning center format? *

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Too noisy</td>
<td>12</td>
</tr>
<tr>
<td>Off-task behavior</td>
<td>10</td>
</tr>
<tr>
<td>Not enough time to complete activities in some centers</td>
<td>6</td>
</tr>
<tr>
<td>Difficulty in transitions between centers</td>
<td>4</td>
</tr>
<tr>
<td>Different amount of time required to do different centers</td>
<td>3</td>
</tr>
</tbody>
</table>
* Total number of responses: 49

Student Comments
“Some groups finished before others, and that could be looked at as wasted instructional time.”
“I wasn’t able to complete one of the activities during the time allotted and had to try again outside of class.”
“The worst thing about the learning centers was trying to stay on task. The noise level was too loud and made it hard to concentrate.”
“The worst thing about learning centers is the ease with which we drifted off the topic.”

Questions #3 – Why did I (the teacher) use this format? *

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learn how to use learning centers</td>
<td>17</td>
</tr>
<tr>
<td>Work together in groups</td>
<td>7</td>
</tr>
<tr>
<td>Learn a different learning style</td>
<td>5</td>
</tr>
<tr>
<td>Teacher can work with a small group</td>
<td>3</td>
</tr>
<tr>
<td>Introduce several aspects of the topic</td>
<td>2</td>
</tr>
</tbody>
</table>
* Total number of responses: 50

Student Comments
“I believe that you used the format so that as future teachers, we could experience what a class might be like for our students.”
“I believe you did learning centers with us to give us a feel for how learning centers work and understand the pros and cons.”
“Teacher used this format because it is a good format to use in the classroom, and it allows us to feel how it works from a student’s point of view.”
“This method was used to help us pool our knowledge and complement each other.”
“Teacher used this format as an example of how learning centers can be used.”
“To show us how it is an effective teaching tool.”
“So you (teacher) can work with a small group while the rest of the class is doing something.”

**Question #4 – Which format did you prefer? (learning centers or individual) * **

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preferred learning centers</td>
<td>13</td>
</tr>
<tr>
<td>Preferred individual work</td>
<td>20</td>
</tr>
<tr>
<td>No preference</td>
<td>7</td>
</tr>
</tbody>
</table>

* Total number of responses: 40

**Student Comments**

“With individual work there is no immediate feedback like there is with group work.”
“I feel like I learn more from being able to discuss in our group. I also feel more confident with my answers when we discuss them in the group.”
“I enjoyed working alone. I get easily frustrated when the people in a group are going too slow or playing around.”
“I would not prefer one over the other because each has its own benefit. When production counts, I prefer individual work. Otherwise, I prefer group activity because I retain the information better.”
“Both are great. It all depends on the situation and the students.”
“I feel that I am more efficient in reaching the goal when I work by myself.”

**Findings**

The following findings are reported from observations of student interactions and readings of their comments.

**Engagement in the task.** The learning center format engages students in active, purposeful learning (Tompkins, 2002). For the majority of center time, most students actively participated in the learning experience. The involvement in the task varied with the make-up of the group and also the time in the rotation when they visited centers. The first groups who went to a particular center seemed more highly engaged with the tasks than subsequent groups.

**Logistics of using centers.** From watching the students interact, the professors gained an appreciation for the difficulty of the task and also for how much time each task required. The time students took to work in some of the learning centers didn’t mesh with the allotted time. Students worked through some centers more rapidly than anticipated, while
other students took longer in the same center. This discrepancy in time allowed some students to engage in off-task behaviors, such as talking about unrelated topics. To avoid this situation in the future, centers should be aligned so that each one takes approximately the same amount of time.

Some of the students complained about having to move from center to center because they had to carry their materials. Although attention was paid to this comment, it is recognized that movement between centers enables students to be more alert and perhaps more attentive to the learning task as a result.

**Student recognition of purpose.** From responses to question #3, it is evident that students weren’t clear as to why the authors used the learning center format. Over one-half of the students did not recognize that the professors were modeling the use of learning centers as an instructional technique for them to use in the classroom. In the future the professors agreed that a direct link needs to be made between previous discussions of learning centers and the implementation of this instructional format.

**Structure of the centers.** For professor one, the lack of experience with doing a readability estimate caused some confusion, and groups took longer than the allotted time to complete the center. To avoid this problem, how to conduct a readability estimate would be taught to the whole class and not included as a center activity. Taking this activity out of the center rotation would ensure that the other centers take the same amount of time.

The recommended role for the teacher during center activity is that of consultant (Readence, Bean, & Baldwin, 2004). This role enables the teacher to move around the room to monitor students’ engagement in the task, as well as provide assistance if students request it. Findings from professor two’s experience confirmed that this teacher role was the best one for center activities. Professor two demonstrated book introductions to each group as one of the center activities. Later, it was reported that some students were not on task at the other centers while the professor was demonstrating the book introduction. Consequently, in the future, a demonstration of book introductions will be videotaped and placed in the center. This will enable the professor to serve as a facilitator rather than as an instructor during center time.

**Preference of learning style.** Both methods, learning centers and individual seatwork, enabled students to take charge of their own learning. Half of the respondents preferred individual work rather than working in learning centers. From their written comments in response to the questions, it is evident that their preference was directly linked to their individual learning styles (Clardy, 2005). Thirteen out of forty respondents preferred the learning center format over individual work, while 7 said they could learn from both styles. The comments from those 7 students indicated that preference was linked to the task they were asked to do. In response to the fourth question regarding preference of the learning center format to individual seatwork, 2 students out of 40 indicated that they preferred working individually as opposed to working in the learning center format. As adults, these students had already developed a preferred learning style (Clardy, 2005). They recognized that they needed to retain the information presented in the learning
center format, and their responses indicated that they would have preferred to learn the information in a way that best suited their own learning styles.

There was a noticeable difference in learning style preference between students in the two settings. Thirteen elementary pre-service teachers preferred the learning center format, and twenty of the secondary pre-service teachers preferred individual study sheet work. It is possible that differences in responses between the two groups is reflective of their learning experiences in other college classes as well as preference in learning styles. Elementary preservice teachers have had more exposure to the learning center format and small group work than secondary students have had.

**Conclusion**

Preservice teachers are accustomed to passive learning and working independently on assignments since the lecture format and individual work are the predominant modes of teaching in college classes. Most professors of education want their students to exit teacher preparation programs having a repertoire of strategies that include more than just the lecture format. The lecture mode of instruction is teacher-dominated and helps perpetuate the myth that students cannot learn without the teacher’s direct involvement. However, in regard to the benefits of working in a small group in the learning center environment, student responses to Questions #1 and #4 indicated they did learn from one another (Alvermann, Dillon, & O’Brien, 1987; Berghoff & Egawa, 1991; Readence, Bean, & Baldwin, 2004). If teachers view themselves as dispensers of knowledge, the teaching methods they employ encourage students to be passive learners. Students should be actively engaged in structuring their own learning and should be given the opportunity to work with peers (Piaget, 1969; Vygotsky, 1978). Student responses to Question #1 revealed that the best thing about the learning center format was that they worked together and learned from their peers. Preservice teachers need to learn about and experience how to use instructional methods, such as learning centers, that actively engage students in learning and contributes to the social construction of knowledge. The professors in this study believe that teacher educators should incorporate these methods within their own instruction in order for preservice teachers to understand how these strategies work in the classroom. Learning centers can be one of the teaching tools along with whole group instruction, partnered activities, and individual assignments used in order to meet the needs of all of teacher preparation students to encourage their use of various learning formats in their future classrooms.
References


